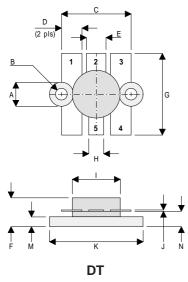


## **D1025UK**

### METAL GATE RF SILICON FET

#### **MECHANICAL DATA**



PIN 1 SOURCE (COMMON) PIN 2 **GATE** 

SOURCE (COMMON) PIN 4 SOURCE (COMMON) PIN<sub>3</sub>

PIN 5 DRAIN

A         6.35 DIA         0.13         0.250 DIA         0.005           B         3.17 DIA         0.13         0.125 DIA         0.005           C         18.41         0.25         0.725         0.010           D         5.46         0.13         0.215         0.005           E         5.21         0.13         0.205         0.005           F         7.62         MAX         0.300         MAX           G         21.59         0.38         0.850         0.015           H         3.94         0.13         0.155         0.005           I         12.70         0.13         0.500         0.005           J         0.13         0.03         0.005         0.001           K         24.76         0.13         0.975         0.005           M         2.59         0.13         0.102         0.005           N         4.06         0.25         0.160         0.010		DIM	mm	Tol.	Inches	Tol.	
C         18.41         0.25         0.725         0.010           D         5.46         0.13         0.215         0.005           E         5.21         0.13         0.205         0.005           F         7.62         MAX         0.300         MAX           G         21.59         0.38         0.850         0.015           H         3.94         0.13         0.155         0.005           I         12.70         0.13         0.500         0.005           J         0.13         0.03         0.005         0.001           K         24.76         0.13         0.975         0.005           M         2.59         0.13         0.102         0.005		A 6.35 DIA		0.13	0.250 DIA	0.005	
D         5.46         0.13         0.215         0.005           E         5.21         0.13         0.205         0.005           F         7.62         MAX         0.300         MAX           G         21.59         0.38         0.850         0.015           H         3.94         0.13         0.155         0.005           I         12.70         0.13         0.500         0.005           J         0.13         0.03         0.005         0.001           K         24.76         0.13         0.975         0.005           M         2.59         0.13         0.102         0.005	В		3.17 DIA	0.13	0.125 DIA	0.005	
E         5.21         0.13         0.205         0.005           F         7.62         MAX         0.300         MAX           G         21.59         0.38         0.850         0.015           H         3.94         0.13         0.155         0.005           I         12.70         0.13         0.500         0.005           J         0.13         0.03         0.005         0.001           K         24.76         0.13         0.975         0.005           M         2.59         0.13         0.102         0.005		С	18.41	0.25	0.725	0.010	
F         7.62         MAX         0.300         MAX           G         21.59         0.38         0.850         0.015           H         3.94         0.13         0.155         0.005           I         12.70         0.13         0.500         0.005           J         0.13         0.03         0.005         0.001           K         24.76         0.13         0.975         0.005           M         2.59         0.13         0.102         0.005		D	5.46	0.13	0.215	0.005	
G 21.59 0.38 0.850 0.015 H 3.94 0.13 0.155 0.005 I 12.70 0.13 0.500 0.005 J 0.13 0.03 0.005 0.001 K 24.76 0.13 0.975 0.005 M 2.59 0.13 0.102 0.005		Е	5.21	0.13	0.205	0.005	
H         3.94         0.13         0.155         0.005           I         12.70         0.13         0.500         0.005           J         0.13         0.03         0.005         0.001           K         24.76         0.13         0.975         0.005           M         2.59         0.13         0.102         0.005		F	7.62	MAX	0.300	MAX	
I         12.70         0.13         0.500         0.005           J         0.13         0.03         0.005         0.001           K         24.76         0.13         0.975         0.005           M         2.59         0.13         0.102         0.005		G	21.59	0.38	0.850	0.015	
J         0.13         0.03         0.005         0.001           K         24.76         0.13         0.975         0.005           M         2.59         0.13         0.102         0.005		Н	3.94	0.13	0.155	0.005	
K         24.76         0.13         0.975         0.005           M         2.59         0.13         0.102         0.005			12.70	0.13	0.500	0.005	
M 2.59 0.13 0.102 0.005		J	0.13	0.03	0.005	0.001	
		Κ	24.76	0.13	0.975	0.005	
N 4.06 0.25 0.160 0.010		M	2.59	0.13	0.102	0.005	
		N	4.06	0.25	0.160	0.010	

# **GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET** 100W - 28V - 175MHzSINGLE ENDED

### **FEATURES**

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND APPLICATIONS
- LOW C<sub>rss</sub>
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN 16 dB MINIMUM

### **APPLICATIONS**

• HF/VHF COMMUNICATIONS from 1 MHz to 175 MHz

### **ABSOLUTE MAXIMUM RATINGS** (T<sub>case</sub> = 25°C unless otherwise stated)

$\overline{P_D}$	Power Dissipation	175W
BV <sub>DSS</sub>	Drain – Source Breakdown Voltage	70V
$BV_GSS$	Gate – Source Breakdown Voltage	±20V
I <sub>D(sat)</sub>	Drain Current	25A
T <sub>stg</sub>	Storage Temperature	−65 to 150°C
T <sub>j</sub>	Maximum Operating Junction Temperature	200°C

Semelab PIc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

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### **D1025UK**

### **ELECTRICAL CHARACTERISTICS** (T<sub>case</sub> = 25°C unless otherwise stated)

Parameter		Test Conditions		Min.	Тур.	Max.	Unit
BV	Drain-Source	V <sub>GS</sub> = 0	I <sub>D</sub> = 100mA	70			V
BV <sub>DSS</sub>	Breakdown Voltage	VGS = 0		70			V
1	Zero Gate Voltage	\/ = 28\/	V <sub>GS</sub> = 0			5	mA
I <sub>DSS</sub>	Drain Current	$V_{DS} = 28V$				3	ША
I <sub>GSS</sub>	Gate Leakage Current	V <sub>GS</sub> = 20V	V <sub>DS</sub> = 0			1	μΑ
V <sub>GS(th)</sub>	Gate Threshold Voltage *	I <sub>D</sub> = 10mA	$V_{DS} = V_{GS}$	1		7	V
9 <sub>fs</sub>	Forward Transconductance *	V <sub>DS</sub> = 10V	I <sub>D</sub> = 4A	4			S
G <sub>PS</sub>	Common Source Power Gain	P <sub>O</sub> = 100W		16			dB
η	Drain Efficiency	$V_{DS} = 28V$	$I_{DQ} = 0.5A$	50			%
VSWR	Load Mismatch Tolerance	f = 175MHz		20:1			_
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> = 28V	$V_{GS} = -5V f = 1MHz$			300	pF
C <sub>oss</sub>	Output Capacitance	V <sub>DS</sub> = 28V	$V_{GS} = 0$ $f = 1MHz$			150	pF
C <sub>rss</sub>	Reverse Transfer Capacitance	V <sub>DS</sub> = 28V	$V_{GS} = 0$ f = 1MHz			12.5	pF

<sup>\*</sup> Pulse Test: Pulse Duration = 300  $\mu s$ , Duty Cycle  $\leq 2\%$ 

### HAZARDOUS MATERIAL WARNING

The ceramic portion of the device between leads and metal flange is beryllium oxide. Beryllium oxide dust is highly toxic and care must be taken during handling and mounting to avoid damage to this area.

#### THESE DEVICES MUST NEVER BE THROWN AWAY WITH GENERAL INDUSTRIAL OR DOMESTIC WASTE.

### THERMAL DATA

R <sub>THj-case</sub>	Thermal Resistance Junction – Case	Max. 1.0°C / W
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Docuemnt Number 3321

Issue 1

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